91-003895/01 E36 J03 K05 X14 SUGA/21.04.89
SUGANO Y *J0 2281-185-A
21.04.89-JP-102968 (16.11.90) G21b-01

Ordinary temp. nuclear fusion supersonic wave acceleration - by irradiating ultrasonic wave in heavy water using platinum anode and palladium cathode

C91-001820

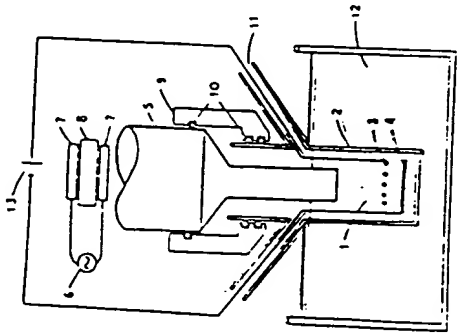
A supersonic wave is irradiated in heavy water to electrolyse the heavy water, using a platinum electrode (anode) and a palladium electrode (cathode). The electrolysis accelerates ordinary temp. nuclear fusion reaction.

Pref. a curled platinum electrode and a disc palladium electrode are housed in a glass container filled with heavy water. A supersonic wave soln. impregnated horn having a ceramic piezoelectric vibrator is provided above the electrodes. The supersonic wave generated by the vibrator is amplified in the horn, and is then transferred in the heavy water.

USE/ADVANTAGE - The method accelerates nuclear fusion reaction. The method constantly maintains the palladium electrode at high active state. High temp. and high pressure heavy water ions

E(5-R, 31-A2) J(3-B) K(5-A3)

act on the living palladium electrode and locally heats the palladi electrode, using reaction heat generated when the heavy water ato become heavy water molecules. The results encourage movement of heavy water nucleus palladium crystal lattic increasing the probability of nuclear fusion reaction, and increas the yield of normal temp. (3pp Dwg.No.1/1)



Sugano

⑲日本国特許庁(JP)　⑪特許出願公開

⑫公開特許公報(A)　平2-281185

⑤Int.Cl.⁵　識別記号　庁内整理番号　⑬公開　平成2年(1990)11月16日
G 21 B 1/00　Z　7458-2C

審査請求　未請求　請求項の数 1　(全3頁)

⑭発明の名称　常温核融合超音波促進法

⑳特　願　平1-102968
㉒出　願　平1(1989)4月21日

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明細書

1．発明の名称

常温核融合超音波促進法

2．特許請求の範囲

重水の中に超音波を照射することによって、重水を電気分解する際に起こる常温核融合反応を、促進させることを特徴とする、常温核融合超音波促進法。

3　発明の詳細な説明

気体を含んだ液体中に超音波を照射すると、小さな気泡が発生し、それが成長して圧縮崩壊されるとき、非常に高い温度と圧力が発生する。この圧力と温度について、理論的に正確に計算することも、実験的に正しく測定することも困難であるとされているが、精巧なモデルから、温度が数千度、圧力が１００気圧から１０００気圧、加熱時間が１マイクロ秒以下という推測がなされている。さらに圧縮崩壊に伴う温度領域には２種の領域があり、気泡中にもともと存在していた気体は約５００℃、気泡境界の液体は約２１００℃にまで上ることが報告されている。

本発明は、重水の中に超音波を照射しながら重水を電気分解することによって、核融合反応の起きる確率を高め、電気分解法による常温核融合反応を、促進することを目的とするものである。

〔従来の技術〕

従来の電気分解法による常温核融合法は、白金電極（陽極）とパラジュウム電極（陰極）とを用いて重水を電気分解する、原理的な方法であり、常温核融合反応の確率が低く、工業的に利用できる方法ではなかった。

〔本発明が解決しようとする課題〕

本発明は、電気分解法による常温核融合反応において、核融合が起きる確率を高くすることを課題として、下記の点を改善しようとしたものである。

a．重水素の原子核が、陰極を構成する金属の結晶格子中に、取り込まれやすくする。

b．結晶格子中に取り込まれた重水素の、原子核の動きを激しくする。

【課題を解決するための手段】

重水の中に超音波を照射しながら、白金電極（陽極）とパラジュウム電極（陰極）とを用いて、重水を電気分解し、常温核融合反応を起こさせる。

【作用】

a．電気分解の進行に伴って、電極の表面に酸素（陽極）や重水素（陰極）の気体が発生する。発生した気体は、重水中に照射されている超音波からエネルギーを吸収し、小さな気泡となり、それが成長して圧縮破壊されるので、電極に気泡が付着することがなく、触媒剤を使用しないで分極作用を抑制することができる。

b．気泡の圧縮破壊によって、衝撃波と共に、電極表面に向かった重水のジェット流が発生して、電極表面を侵食し、不活性な被膜を除去する。その結果、パラジュウム電極の触媒性を高めると共に、電極反応を促進することができる。

c．気泡の圧縮破壊で生じた熱によって、重水が熱分解され、非常に反応性の高い重水素原子が生成される。

d．重水の熱分解によって生成された重水素原子が、パラジュウム電極表面において、重水素分子になるとき、多量の熱を放出する。

e．触媒活性が高められたパラジュウムの結晶格子と接する界面で、熱分解によって生成された非常に反応性の高い重水素原子と、電気分解によって生成された非常に反応性の高い重陽子の重水素イオンとが、高温、高圧にさらされることによって、電気分解法による常温核融合反応の場に、特殊な反応場がパルス的に提供される。

【実施例】

重水（１）を収容したガラス容器（２）の中に、網目状をした白金電極（陽極）（３）と、円筒状をしたパラジュウム電極（陰極）（４）を設置する。さらにその上方に、チタン棒の先にセラミックス製圧電振動子が接着してある超音波振動ホーン（５）を設置し、超音波発振器で発振された超音波が、ホーン内で増幅されて重水中に伝播できるようにする。このようにしたうえで、超音波を発振させ、重水中に超音波を照射しながら重水を

電気分解し、核融合反応を起こさせる、常温核融合超音波促進法。

【効果】

本発明によれば、パラジュウム電極を常に活性の高い状態に保ち、重水素イオンを高温高圧で、パルス的に通電中のパラジュウム電極に作用させ、重水素原子が重水素分子になるときの反応熱で、パラジュウム電極を局所的に加熱する作用の連和によって、パラジュウムの結晶格子中に取り込まれた重水素の原子核の運動を激しくし、核融合反応が起きる確率を高め、電気分解法による常温核融合反応の効率を高める効果がある。

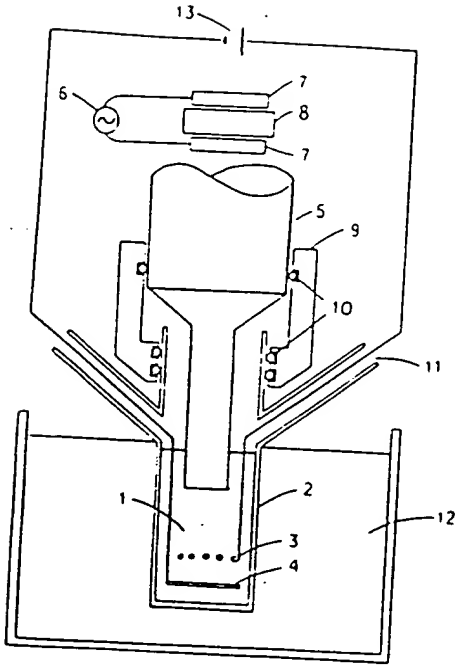
4．図面の簡単な説明

図面は本発明を実施する装置の、断面の概略図である。

（１）重水　（２）ガラス容器　（３）白金電極（４）パラジュウム電極　（５）超音波振動ホーン　（６）交流電源　（７）電極　（８）比電気端子　（９）ステンレス製振動子固　（１０）Oリング　（１１）気体の出入り口　（１２）冷却管

（１３）直流電源

特許出願人　荻野　雄幸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PTO 94-2721

Japan, Koho
Publication No. 1-102968

A NORMAL TEMPERATURE NUCLEAR FUSION SUPERSONIC WAVE ACCELERATION METHOD

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Yasuyuki Sugano

UNITED STATES PATENT AND TRADEMARK OFFICE
Washington, D.C. May 1994

Translated by: Schreiber Translations, Inc.

Country	:	Japan
Document No.	:	1-102968
Document Type	:	Patent Application
Language	:	Japanese
Inventor	:	Yasuyuki Sugano
Applicant	:	Yasuyuki Sugano
IPC	:	G 21 B 1/00
Application Date	:	April 21, 1989
Publication Date	:	November 16, 1990
Foreign Language Title	:	Jo-on Kaku Yugo Cho-onpa Sokushinho
English Title	:	A NORMAL TEMPERATURE NUCLEAR FUSION SUPERSONIC WAVE ACCELERATION METHOD

SPECIFICATION

1. Title of Invention

A normal temperature nuclear fusion supersonic wave acceleration method.

2. Claim for Registration of Patent

A normal temperature nuclear fusion supersonic wave acceleration method whose characteristics is to accelerate the normal temperature nuclear fusion reaction that occurs when electrolysis is applied to heavy water by irradiating supersonic wave into heavy water.

3. Detailed Description of Invention

When supersonic wave is irradiated in a liquid containing vapor, small bubbles develop. After these bubble grow and are broken by a compression rupture, an extremely high temperature and pressure develop. It is believed to be difficult to theoretically and accurately calculate this pressure and temperature, and it is also believed to be difficult to accurately measure the above mentioned pressure and temperature in an experimental manner. However, by using a delicate model, it is predicted that the temperature should be several thousand degrees, the pressure should be between 100 normal atmosphere to 1000 normal atmosphere, and the heating time should be less than

[1]Numbers in the margin indicate pagination in the foreign text.

1 microsecond. There are two different kinds of temperature territories that accompanying the compression rupture. It was reported that the temperature of the gas which existed in the bubble from the beginning reached approximately 5500°C, and the temperature of the liquid around the bubble reached approximately 2100°C.

The purpose of the present invention is: to increase the probability of a nuclear fusion reaction occurrence by electrolyzing heavy water by irradiating supersonic wave in heavy water; and to accelerate the normal temperature nuclear fusion reaction by the electrolysis method.

[Conventional Method]

The conventional normal temperature nuclear fusion method by an electrolysis method is a principle method using a platinum electrode (anode) and a palladium electrode (cathode) to electrolyze heavy water. Because the yield of the normal temperature nuclear fusion reaction of the conventional method was low, it was not applicable for industrial usage.

[Problems The Invention Tries To Solve]

Purposing to increase the probability of the nuclear fusion occurrence at the normal temperature nuclear fusion reaction by using the electrolysis method, the present invention tries to improve the following points:

a. Allow atomic nucleus of heavy hydrogen to be easily taken into crystal lattices of the metal that construct cathode.

b. Encourage the atomic nucleus's movement of heavy hydrogen which is taken into crystal lattices.

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[Means To Solve The Problems]

While irradiating the supersonic wave in heavy water, by using a platinum electrode (anode) and a palladium electrode (cathode), electrolyze heavy water. Thus, a normal temperature nuclear fusion reaction occurs.

[Actions]

a. As the electrolysis progresses, oxygen gas (anode) and heavy hydrogen gas (cathode) develop on the surfaces of the electrodes. The developed gas absorbs energy from the supersonic wave that is irradiated in heavy water, and the gas becomes small bubbles. Since they are ruptured by a compression rupture when they grow larger, bubbles never attach to the electrodes. Thus, the polarization effect can be controlled without using a polarizer.

b. Due to the compression rupture of the bubble, the jet current of heavy water, heading toward to the electrode surface, develops as well as the impulse wave. This results in surface erosion of the electrodes, and removes inactive coats. As a result, the electrode reaction is accelerated as well as the catalytic characteristics of the palladium electrode.

c. The heavy water is thermally decomposed by the heat produced by the compression rupture of the bubble. This results in generating extremely reactive heavy hydrogen atoms.

d. The heavy hydrogen atoms, generated by the thermal decomposition of heavy water, release large amounts of heat when they touch the surface of the palladium electrode and become heavy hydrogen molecules.

e. At the interface contacting palladium crystal lattices with increased catalytic characteristics, the special reaction fields are supplied as a pulse at the field of normal temperature nuclear fusion reaction by the electrolysis method. This occurs because the extremely reactive heavy hydrogen atoms generated by the thermal decomposition and the extremely reactive nascent state heavy hydrogen ions generated by the electrolysis are exposed to high temperature and high pressure.

[Operation Example]

The following is a normal temperature nuclear fusion supersonic wave acceleration method prepared as follows: In the glass container (2) filled with heavy water (1), set a spiral type platinum electrode (anode) (3) and a disc type palladium electrode (cathode) (4). A supersonic wave solution impregnated horn (5), having a titanium bar with a ceramic piezoelectric vibrator adhered at the tip of the bar, is provided above the electrodes. The supersonic wave oscillated by a supersonic wave oscillator is amplified in the horn, and is then transferred in

the heavy water. Set as above, oscillate the supersonic wave, and electrolyze the heavy water while irradiating the supersonic wave in the heavy water. Thus, the nuclear fusion reaction is caused.

[Effects of The Invention]

The present invention has the following effects: a palladium electrode is constantly maintained as a high active state; under high temperature and high pressure, heavy hydrogen ions are acted to the palladium electrode with a pulse like electric current; by the reaction heat, generated when heavy hydrogen atoms become heavy hydrogen molecular, the palladium electrode is locally heated. A total of the above results encourages the atomic nucleus' movement of heavy hydrogen that are taken into the crystal lattices of the palladium, increases the probability of the nuclear fusion reaction occurrence, and increases the yield of the normal temperature nuclear fusion reaction by using the electrolysis method.

4. Brief Description of Drawings

The drawing is a type of drawing of a cross-section of the device that implements the present invention: (1) heavy water, (2) glass container, (3) platinum electrode, (4) palladium electrode, (5) supersonic wave solution impregnated horn, (6) alternating current power supply, (7) electrode, (8) piezoelectric vibrator, (9) stainless connect pipe, (10) O-ring,

(11) gas entrance and exit, (12) coolant, (13) direct current power supply.

Patent applicant: Yasuyuki Sugano